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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,671	02/01/2005	Pierre Charlat	Serie 5946	6797

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Air Liquide
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EXAMINER	
ONEILL, KARIE AMBER	
ART UNIT	**PAPER NUMBER**
1795	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/523,671	CHARLAT ET AL.	
	Examiner	Art Unit	
	Karie O'Neill	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2-1-05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I (Claims 17-22) in the reply filed on November 6, 2008, is acknowledged. The traversal is on the ground(s) that, "Examiner fails to make a proper showing of lack of unity required by the USPTO as detailed in MPEP §1893.03(d) ". Applicant's arguments are persuasive because. Therefore, the Restriction Requirement is withdrawn. Claims 1-16 have been cancelled. Therefore, Claims 17-37 are pending in this office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 17-32 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Petillo et al. (US 6,544,679 B1).

With regard to Claim 17, Petillo et al. discloses an apparatus, said apparatus comprising:

a) a plurality of elementary cells (100); and

b) a fluid distribution means, called multiple fluid interface nipples (104, 106, 108, 110), wherein:

1) said fluid distribution means, multiple fluid interface nipples (104, 106, 108, 110), supplies each said elementary cell (100) with two input fluids, and allows for the discharge of two output fluids from said elementary cells (column 4 lines 54-57 and column 5 lines 25-31);

2) said fluid distribution means, multiple fluid interface nipples (104, 106, 108, 110), is able to be connected to a fluid distribution system, called a support manifold (102); and

3) said fluid distribution means, multiple fluid interface nipples (104, 106, 108, 110), comprises a series of first valve elements (302), wherein:

i) said first valve elements (302) are located on a first side of said apparatus, either interposed in the fluid path in the manifold (102) or in the inlet and outlet conduits of the cell assembly, or both (column 5 lines 43-53); and

ii) when said apparatus is integrated with said power producing device, or a load (column 4 lines 63-65), said first valve elements (302) are able to substantially cooperate with a series of second valve elements (302) located on said fluid distribution system (102) (column 5 lines 43-67 and column 6 lines 1-4).

The phrases, “which may be used as a fuel cell pack intended to be integrated into a power-producing device” and “said first valve elements are able to substantially

cooperate with a series of second valve elements" are functional language and impart intended use to the structural features of the claim. Therefore, while the intended use language of the claim has been considered, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claims 18-20, Petillo et al. discloses in Figure 3, wherein all said first valve elements (302) are arranged on the same face of said apparatus, wherein each said first valve element (302) has an axis of symmetry parallel to each other, and wherein each said first valve element (302) comprises a moving member, which can be the valve itself or a switch or sensor (column 5 lines 56-67), wherein said member is able to move in the direction of said axis of symmetry. The phrase, "able to move in the direction of said axis of symmetry" is functional language and imparts intended use to the structural features of the claim. Therefore, while the intended use language of the claim has been considered, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than

function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claim 21, Petillo et al. discloses wherein, (a) each of the first valve elements (302) further comprises a first hollow body; (b) said hollow body contains both said moving member, the valve itself since it is able to move or a switch or sensor, and a spring (column 5 lines 57-67); and (c) said spring is able to move said moving member (column 5 lines 43-67 and column 6 lines 1-4). Petillo et al. does not specifically disclose the first valve comprising a hollow body, however, such properties are inherent since Petillo et al. teaches that the valve is spring loaded and therefore, the spring is located within a hollow body. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. See MPEP 2112. Also, the phrase, "spring is able to move said moving member" is functional language and imparts intended use to the structural features of the claim. Therefore, while the intended use language of the claim has been considered, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not

differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claim 22, Petillo et al. discloses wherein said first valve elements are located on an end plate, or support manifold (102), of said apparatus (column 5 lines 43-43); and said end plate provides a mechanical retaining function (column 5 lines 25-29).

With regard to Claim 23, Petillo et al. discloses an apparatus, said apparatus comprising:

a) at least one fuel cell pack , called an electrochemical cell assembly, wherein said fuel cell pack comprises:

(1) a plurality of elementary cells (100); and

(2) a fluid distribution means, multiple fluid interface nipples (104, 106, 108, 110), wherein:

(i) said fluid distribution means, multiple fluid interface nipples (104, 106, 108, 110), supplies each said elementary cell (100) with two input fluids, and allows for the discharge of two output fluids from said elementary cells (column 4 lines 54-57 and column 5 lines 25-31);

(ii) said fluid distribution means, multiple fluid interface nipples (104, 106, 108, 110), is able to be connected to a fluid distribution system, called a support manifold (102); and

(iii) said fluid distribution means, multiple fluid interface nipples (104, 106, 108, 110), comprises at least one series of first valve elements (302, 701), wherein said first valve elements (302, 701) are located on a first side of said fuel cell pack, either interposed in the fluid path in the manifold (102) or in the inlet and outlet conduits of the cell assembly, or both (column 5 lines 43-53 and Figure 3);

(b) said fluid distribution system, or support manifold (102), wherein:

(1) said fluid distribution system (102) is able to supply each said fuel cell pack (100) with said input fluids, and allows for the discharge of at least two said output fluids from each said fuel cell pack (100) (column 5 lines 8-42 and Figures 2 and 3); and

(2) said fluid distribution system (102) is able to be connected to at least one external circuit, at least one source fluid reservoir and at least one pump, for the supply of said input fluids (column 3 lines 42-45), and to at least one external circuit, a return reservoir, for the discharge of said output fluids (column 3 lines 49-51); and

(c) at least one series of second valve elements (302, 701) (column 5 lines 43-53 and Figure 3).

The phrases, "which may be used as a power-producing device based upon a fuel cell" and "wherein said second valve elements are able to substantially cooperate with said first valve elements" are functional language and impart intended use to the structural features of the claim. Therefore, while the intended use language of the claim has been

considered, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claims 24-27, Petillo et al. discloses in Figures 1-3, wherein said fluid distribution system (102) further comprises a support member, or a plate, wherein said support member comprises: at least one fluid input member (104, 110) and at least one fluid output member (106, 108), wherein said support member is a plate preferably formed of an electrically insulating material, and wherein said support member further comprises integrated channels to allow fluids to circulate (column 5 lines 8-24). The phrase, "formed by injection molding or compression molding" is a product-by-process limitation. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964,

966 (Fed. Cir. 1985). Since the support member of Petillo et al. is the same as that of the Applicant's, Applicant's process is not given patentable weight in this claim.

With regard to Claim 28, Petillo et al. discloses in Figures 3 and 7, wherein said fluid distribution system, or support manifold (102), comprises said series of second valve elements (302, 701) and each said series of second valve elements (302, 701) is able to substantially cooperate with a corresponding said series of first valve elements (302, 701) (column 5 lines 43-53 and column 8 lines 37-54).

With regard to Claims 29 and 30, Petillo et al. discloses wherein: each said first valve element (302, 701) comprises a first moving member, being the valve itself since it is able to move or a switch or sensor (column 5 lines 57-67), wherein said first moving member, or valve or switch or sensor, is able to move in the direction of the axis of symmetry of said first valve element (302,701); and each said second valve element (302, 701) comprises an actuating element, or a switch or sensor, wherein said actuating element, switch or sensor, is able to move said first moving member, or valve, of the corresponding said first valve element (302,701) from a closed position to an open position (column 5 lines 43-67 and column 6 lines 1-4) and wherein said actuating member is an opening/closing member, called a switch or sensor. The phrases, "wherein said actuating element is able to move said first moving member of the corresponding said first valve element from a closed position to an open position" and "which is able to move in the direction of the axis of symmetry of the second valve element" are functional language and impart intended use to the structural features of the claim. Therefore, while the intended use language of the claim has been

considered with regard to structure, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claims 31 and 32, Petillo et al. discloses wherein, each of the second valve elements (302, 701) comprises a second hollow body, said second hollow body contains both said actuating element, switch or sensor, and a spring, and said spring is able to move said actuating element, switch or sensor (column 5 lines 57-67) and wherein each of the first valve elements (302, 701) comprises a first hollow body; said first hollow body contains both said moving member, the valve itself since it is able to move or a switch or sensor, and a spring (column 5 lines 57-67); and said spring is able to move said moving member (column 5 lines 43-67 and column 6 lines 1-4). Petillo et al. does not specifically disclose the first valve or the second valve comprising a hollow body, however, such properties are inherent since Petillo et al. teaches that the valve is spring loaded and therefore, the spring is located within a hollow body. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. See MPEP 2112. Also, the phrases, "said spring is able to move said actuating

element" and "said spring is able to move said moving member" are functional language and impart intended use to the structural features of the claim. Therefore, while the intended use language of the claim has been considered, it is not given patentable weight because it is directed to a process and not directed to the structural features of the product. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2111. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. See MPEP 2113.

With regard to Claim 37, Petillo et al. discloses a support manifold (102) made from an electrically insulting material and comprising multiple fluid interface nipples (104, 106, 108, 110), and at least one series of first valve elements (302, 701), wherein said first valve elements (302, 701) are located on a first side of said fuel cell pack, either interposed in the fluid path in the manifold (102) or in the inlet and outlet conduits of the cell assembly, or both (column 5 lines 43-53 and Figure 3). The phrase, "a substantial portion of a component is formed by injection molding or compression molding" is a product-by-process limitation. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a

product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since the support member of Petillo et al. is the same as that of the Applicant's, Applicant's process is not given patentable weight in this claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petillo et al. (US 6,544,679 B1), as applied to Claims 17-32 and 37 above, and in further view of Avis et al. (US 2002/0189679 A1).

Petillo et al. discloses the apparatus in paragraph 3 above, but does not disclose wherein a free end of said first hollow body is able to fit into the corresponding said second hollow body; wherein a sealing element is located between said first hollow body and said corresponding second hollow body; wherein a free end of said second hollow body is able to fit into the corresponding said first hollow body; and wherein a sealing element is located between said second hollow body and said corresponding first hollow body.

Avis et al. discloses a shut-off valve for a fluid distribution system used in numerous applications, such as fuel cells (paragraph 0019). Avis et al. discloses shut-off valve 10 configured with female-male connections for incorporation within a gas distribution system according to an embodiment of the present invention. A valve body 12 is shown having a generally tubular design. Valve body 12 has inlet connector 14 shown as a female threaded section on the inlet port 20 of the valve body. Valve chamber 22 is shown receiving a poppet member 24, having a proximal end base 26, flow apertures 28, perimeter of base 30 providing an interface with the walls of valve chamber 22 when poppet member 24 is slidably engaged therein. A biasing member 44, such as a coiled spring, operates to urge poppet 24 to maintain separation from the valve seat so that nominal gas flow may be provided through gas shut-off valve 10. A retention member 46, such as a retention ring or snap ring, is shown for insertion within the interior of valve body 12 to retain poppet 24 within valve body 12 and to limit the extent of its movement therein.

Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to use a shut-off valve with male and female connecting parts, or wherein the free end of said first hollow body is able to fit into the corresponding second hollow body and wherein a sealing element is located between the hollow bodies in the apparatus of Petillo et al., because Avis et al. teaches preventing the hazardous release of fluidic substances by restricting fluid flow across the valve and the safety of any system which distributes fluidic substances can be enhanced with the use of this shut-off valve (paragraphs 0015-0022).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571)272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Ruthkosky/
Primary Examiner, Art Unit 1795

Karie O'Neill
Examiner
Art Unit 1795

KAO